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ECONOMIC COMMISSION FOR AFRICA

Fourth Session of the Joint Conference
of African Planners, Statisticians and
Demographers

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REPORT ON THE AFRICAN STATISTICAL ASSOCIATION

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I. INTRODUCTION

1. It will be recalled that at its third session held in Addis Ababa in March 1984, the Joint Conference of African Planners, Statisticians and Demographers decided to:

(a) Adopt the constitution of the African Statistical Association;

(b) Adopt as working languages of the Association Arabic, English and French;

(c) Locate the administrative and financial secretariat temporarily within the Statistics Division of ECA;

(d) Approve in principle the nomination of candidates to be elected as Council members while recalling that in conformity with the Constitution, any group of 10 ordinary members can nominate its own candidates;

(e) Include the name of a Statistician working in Addis Ababa in the list of nominees for the post of Auditor;

(f) Waive the payments of membership dues for 1984 to enable the Council to work out modalities of payment.

2. The Conference also recognized the need to carefully define criteria for selecting members of the Council.

II. ELECTION OF MEMBERS OF THE COUNCIL

3. Article 23 of the Constitution of the Association states that the ad hoc committee appointed by the second Joint Conference of African Planners, Statisticians and Demographers will carry out the functions entrusted to the Nominations Committee as far as the first elections are concerned.

4. The Ad Hoc Committee comprising Mr. Mitiku Beyene, Manager of the Ethiopian Central Statistical Office, Mr. K. T. de Graft-Johnson, Chief, ECA Statistics Division and Mr. R. Andrianasolo, Chief, Censuses and Surveys Advisory Service, ECA Statistics Division, immediately started making arrangements for drawing up the final list of candidates for election to offices on the Council in conformity with the decisions taken by the Joint Conference of African Planners, Statisticians and Demographers at its third session. It nominated French-speaking candidates for the Office of President of the Association and English-speaking

Candidates for the Office of President-elect to maintain a linguistic balance in the composition of the Council. Arabic-speaking candidates will be given one of the four posts of Vice-President for which appointment is on the basis of equitable geographical distribution. As the Joint Conference also recommended, one of the posts of Auditor will be reserved for candidates based in Addis Ababa, ECA headquarters.

5. Finally, in conformity with the provisions of article 14 of the constitution of the Association, the ad hoc committee included in its list of candidates for election to membership of the Council, candidates nominated by a group of 10 ordinary members of the United Republic of Tanzania.

6. Ballot forms were mailed on 7 September 1984 to the 450 ordinary members of the Association who had completed the preliminary enrolment forms. The ad hoc Committee received 75 replies within the deadline for election which was extended because of communications problems between the countries of the region.

7. By a circular dated 21 January 1985, the ad hoc committee informed all ordinary members of the Association who had completed the preliminary enrolment forms about the outcome of the elections of members to the Council.

8. The ECA Statistics Division wrote on 12 March 1985 to all elected members of the Council to congratulate them upon their election, inform them that ECA had requested the President of the Association to contact other members of the Council in order to launch the activities of the Association and confirm that the ECA Secretariat was willing to help the Council in carrying out its tasks. A complete list of members of the Council together with their addresses (see annex) as well as copies of the constitution and rules of procedure of the Association were attached to the letter.

III. ACTIVITIES OF THE ASSOCIATION

9. On 22 March 1985 the President of the Association, Mr. Lamine Diop, Director of the European Centre for Advanced Training in Statistics and Economics for Developing Countries (CESD), wrote to members of the Executive Committee of the Association, with a copy to all members of the Council, informing them about the urgent problems he had identified and to which solutions had to be found to enable the Association to function smoothly. The problems mainly concerned:

(a) Finalizing and disseminating the amended text of the constitution and rules of procedure of the Association;

(b) The appointment of an interim Executive-Secretary who would carry out his functions free of charge within the Statistics Division of ECA;

(c) Defining modalities for payment of dues by members of the Association;

(d) and preparation of a work programme including the publication of the Journal of the Association.

10. Following the suggestions of the President of the Association, the final text of the constitution and rules of procedure of the Association were sent in French and English to all members of the Association, i.e. those who had completed and returned to ECA the preliminary enrolment forms. Copies of the Constitution and rules of procedure were also sent to potential members and to institutions and individuals concerned with the development of statistics in Africa. There are also plans to translate the texts into Arabic for dissemination to Arabic-speaking members and potential members.

11. With respect to the appointment of an interim Executive Secretary, the ECA Statistics Division proposed one of its members, Mr. E. F. Ching'anda (Malawi), Statistical Training Adviser, to fill the position.

12. Some members of the Association sent letters to the ECA Statistics Division to hail the successful election of members of the Council and to make inquiries about the programme of activities of the Association. The programme of activities is in fact one of the priority concerns of the President of the Association who proposed the holding in Addis Ababa from 5 to 10 July 1985 of the initial meeting of the Executive Committee. In conformity with the provisions of Article 10 of the Association's constitution, the Executive Committee comprises the President, the President-elect, the Secretary-General and Treasurer and the Editor-in-Chief. The President initiated negotiations with the Statistical Office of the European Communities to finance the meeting; he indicated that the chances of obtaining funding for the meeting were very high. Unfortunately, the dates proposed coincided with the holding of the Economic Summit of the Organization of African Unity (OAU) in Addis Ababa during the period 10 to 24 July 1985. The period August-October 1985 did not suit members of the Committee either because of various prior commitments.

13. Finally, the initial meeting of the Executive Committee was held in Addis Ababa on 11 and 12 November 1985 after the fourth meeting of Directors of Centres participating in the Statistical Training Programme for Africa (STPA). The following items were put on the agenda of the initial meeting:

1. Interpretation of the terms of reference of the Executive Committee and of the Council of AFSA;

2. Amounts and modalities of payment of dues;

3. Financing of meetings: Executive Committee, Council, General Assembly;

4. AFSA publications;

5. Proposals with respect to a work programme to be submitted to the Council and to the General Assembly;

6. Any other business.

14. The Chief of the Statistics Division and the Chief of the Censuses and Surveys Advisory Service of ECA participated in the meeting as observers. The conclusions of the meeting will be submitted to the initial meeting of the Council of the Association in March 1986 before being considered by the General Assembly whose initial meeting is also scheduled for March 1986 during the Fourth Session of the Joint Conference of African Planners, Statisticians and Demographers. A second meeting of the Executive Committee is scheduled a few days before the Fourth Session of the Joint Conference in order to finalize among other things, the recommendations to be submitted to the Council and to the General Assembly.

15. It should also be noted that the President and President-elect of the Association had convened on 19 March 1985, in Amsterdam during the 44th Session of the International Statistical Institute, a meeting to brief Africans attending the 44th Session. Apart from information on the creation of the Association and conditions of membership, views were exchanged on various important issues such as the headquarters of the administrative secretariat, meetings of the General Assembly, payment of dues, the Journal of the Association and publicity with respect to the Association.

16. With respect to the administrative headquarters of the secretariat, participants were of the opinion that it was not an urgent problem since it was temporarily located within the Statistics Division of ECA in Addis Ababa. The question of transferring the headquarters to another place could only be considered when a satisfactory offer had been made by a country of the region to host the permanent headquarters of the Association.

17. Participants felt that it was practical to organize meetings of the General Assembly of the Association during the Joint Conference of African Planners, Statisticians and Demographers which was held during even years. However, some participants hoped that in the long run the meetings of the General Assembly of the Association would be organized independently from other meetings to enable more members to participate in them.

18. With respect to the payment of dues, participants stressed the urgent need to resolve the problem concerning methods of payment because of foreign exchange controls in many countries of the region. It was agreed that the mobilization of financial resources was one of the priority tasks of the Executive Committee and of the Council in order to enable the Association to operate normally. In addition to resources from dues and activities of the Association, it would be necessary to negotiate for subsidies and gifts from institutions and organizations interested in the development of statistics in Africa.

19. The meeting recommended that because of the time required to do so, work on the establishment of the Journal of the Association should begin without any delay. They stressed the need to pay particular attention to the scientific aspect of the Journal which should serve as a means of disseminating statistical knowledge on experiences in the region and elsewhere. It was suggested that the Editor-in-Chief of the Journal should be assisted by other members. The meeting felt that for the Journal to be successful the help of competent members would have to be enlisted, suitable and regular quantities of articles would have to be received and the best articles selected to ensure that the publication was of good quality.

20. With respect to publicity, the meeting felt that it was useful to inform all potential members as well as all those who were involved in the development of statistics in Africa (individuals, research institutes, private and public institutions, international organizations etc.) about the existence of the Association. To that end, it was suggested that articles on the Association should be published in magazines and newspapers with a wide circulation.

21. Finally, the meeting was informed of the recent establishment of the Association des statisticiens et demographes de Côte D'Ivoire (ASDECI) whose President, Mr. Daho Balary, was attending the meeting and of the existence in Egypt of a strong Association of Statisticians which could assist the African Statistical Association in one way or the other.

IV. CONCLUSIONS

22. Decisions regarding matters of crucial importance to the Association would henceforth be made by the General Assembly. Nevertheless, it was deemed important to recommend that the Joint Conference of African Planners, Statisticians, and Demographers should draw the attention of ECA member States to the existence of the African Statistical Association (AFSA) and of the Union for African Population Studies (UAPS) in order to facilitate as much as possible the participation of African statisticians and demographers in the activities of AFSA and UAPS especially with respect to the payment of dues. Indeed, Africa's current economic situation and the various foreign exchange regulations in force in countries of the region might hamper the development of the Association and of the Union.

23. The tenure of office of the ad hoc committee set up by the Joint Conference of African Planners, Statisticians and Demographers at its second session is coming to an end. The members of the ad hoc committee would like to sincerely thank all those who assisted them and made it easier for them to accomplish their duties.

24. In conclusion, it is proposed that the Joint Conference:

(a) Should make comments and remarks on how the ad hoc committee carried out its mandate; and

(b) Make general recommendations on how to promote the activities of AFSA and UAPS.

ELECTED COUNCIL MEMBERS OF THE AFRICAN STATISTICAL ASSOCIATION (AFSA)
MEMBRES ELUS DU CONSEIL DE L'ASSOCIATION AFRICAINE DE STATISTIQUE (AFSA)

President/Président

M. Lamine Diop
Directeur
Centre européen de formation des statisticiens économistes de pays en développement (CESD)
3, Avenue Pierre Larousse
92240 Malakoff
France

President-elect/Président-élu

Prof. Biyi Afonja
Head
Department of Statistics
University of Ibadan
Ibadan
Nigeria

Vice-President/Vice Président

- North Africa/Afrique du nord

M. Tadili Faris
Directeur
Direction de la statistique
Secrétariat au plan, au développement régional et à la formation des cadres
B.P. 178
Rabat
Maroc

- West Africa/Afrique de l'ouest

Prof. S.I.K. Odoom 1/
Head
Department of Statistics
University of Ghana
P.O. Box 115
Legon
Ghana

- Central Africa/Afrique centrale

M. Martin K. Balepa
Directeur national du recensement
Ministère du plan et de l'aménagement du territoire
Yaoundé
Cameroun

- East and Southern Africa/Afrique de l'est et australe

Mr. David Jim Mzite
Deputy Director
Central Statistical Office
P.O. Box 8063
Causeway
Harare
Zimbabwe

Secretary-General and Treasurer/Secrétaire général et trésorier

M. Ousmane Balde
Directeur des études à l'ENSEA
06 B.P. 3
Abidjan 06
Cote d'Ivôire

Editor-in-Chief/Rédacteur en chef

M. A.K. Amelewonou
Statistician
Statistics Division
UNECA
P.O. Box 3005
Addis Ababa
Ethiopia

Auditors/Vérificateurs des comptes

- Mr. A. Cummings-Palmer
Chief
General Economic Statistics Section
Statistics Division
UNECA
P.O. Box 3005
Addis Ababa
Ethiopia

- Mr. J. Nekovole
Central Bureau of Statistics
P.O. Box 30266
Nairobi
Kenya

- M. Keita Nedelmbo
Directeur
Direction de la statistique
Ministère du Plan et de l'industrie
B.P. Vbb
Abidjan 01
Côte d'Ivoire

1/ Prof. Odoom is currently on sabbatical leave at the University of Liberia.
Le Prof. Odoom est actuellement en congé sabbatique à l'Université du Libéria.

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FUTURE OF THE AFRICAN DEMOGRAPHIC TRAINING AND RESEARCH INSTITUTES - RIPS (ACCRA) AND IFORD (YAOUNDE)

FUTURE OF THE AFRICAN DEMOGRAPHIC TRAINING AND RESEARCH INSTITUTES

1. The two regional demographic training institutes, the Regional Institute for Population Studies (RIPS) and the Institut de Formation et de Recherche Démographiques (IFORD) located in Accra (Ghana) and Yaounde (Cameroon) respectively, were set up jointly by the United Nations and the Governments of Ghana and Cameroon, in 1972. To serve the needs of Anglophone and Franchophone countries for trained demographers able to conduct demographic surveys and censuses, analyse demographic data and to integrate population variables into the development planning process. The institutes were decentralized from the Department of Technical Cooperation (DTC) in New York to the United Nations Economic Commission for Africa (ECA) in 1980. Following the request of African countries, the institutes were regionalized in 1982 to allow all the countries they serve to participate in their management and funding. Although the institutes have been fulfilling their functions and have continued to meet Africa's continuing need for demographers, as expressed in the Lagos Plan of Action and the Kilimanjaro Programme of Action, the regionalization of the institutes and the reduction of funding by the United Nations Fund for Population Activities (UNFPA) has brought severe financial problems on the institutes.

2. It is against this background that the Nineth Meeting of the ECA Conference of Ministers set up an ad hoc committee to evaluate ECA and OAU sponsored institutions and to propose measures for their better rationalization, coordination, harmonization or integration. Resolution 533 (XX) of the Eleventh Conference of Ministers, adopted in 1985, requested the Executive Secretary to submit the final report of the ad hoc committee on ECA/OAU sponsored institutions to the Governing Councils of RIPS and IFORD, to hold consultations with the host countries, Ghana and Cameroon, and with the UNFPA, the main donor agency, and to come up with proposals on the future of the institutions. The necessary consultations were begun during the meetings of the Governing Councils of the two institutes in June and July 1985. Proposals were made a ECA secretariat was invited to prepare this paper for submission to the Fourth Session of the Joint Conference of Planners, Statisticians and Demographers (PSD) which will make a recommendation to the 21st session of the Commission and Twelfth Meeting of the ECA Conference of Ministers.

3. The purpose of this paper is therefore to describe briefly the past activities of IFORD and RIPS, to highlight the current problems and to suggest alternative avenues for possible solutions in the future.

I. Past activities

4. Since their inception, the demographic institutes have been actively involved in training and research in population. It would be too long to list all the services rendered by IFORD and RIPS. Suffice to recall that together IFORD and RIPS have trained over 500 demographers, for a diploma or a certificate. In addition RIPS has also trained about 50 Master of Arts students.

5. These graduates have been hired by their governments and are working in different ministries, government agencies, teaching and research institutions, etc. However, given the needs of African countries, the past effort has to be continued in order to satisfay the needs of all countries and to respond to the continuing demand for population experts.

6. The institutes have also contributed in promoting research and publishing high quality materials on fertility, mortality, migration, population policies, population and development and other related subjects. These publications are either used directly by African planners or serve as reference for improving knowledge on African population.

7. IFORD and RIPS have also provided consultancy services to African countries and have organized several sessions of short term middle level training as well as seminars, workshops and scientific gatherings.

2. Special features of IFORD

8. At present IFORD is an institute with no formal links to any university. It runs its own courses, approved by its advisory Board on Studies and Research and its Governing Council. It also awards its own diploma.

9. Both the UNFPA Evaluation Mission (1983) and the ECA organized Review mission of IFORD (1984) recommended closer links between IFORD and the University of Yaoundé. The arguments in favour of closer links or even partial integration of IFORD into the University are that IFORD students would benefit from library facilities and the availability of other disciplines in terms of teachers and an intellectual atmosphere as well as giving uniform recognition to the diploma awarded by IFORD. Other benefits can also be envisaged in terms of reducing the present administrative costs of IFORD. However some aspects of IFORD need strengthening. These include its library and research programme. These recommendations of the ECA organized Review mission were accepted by the IFORD Advisory Board on Studies and Research and by the Governing Council.

10. Because of regulations governing higher education in Cameroon, it may not be possible for IFORD, as a regional institute, to be fully integrated into the University of Yaoundé. However closer links can be developed such that IFORD adopts academic standards set by the University and is located on or near the University campus.

3. Special features of RIPS

11. RIPS is located on the campus of the University of Ghana although it still retains its character as a regional institute. The lecturers at RIPS are recognized as meeting the standards of the University and the students also satisfy the entry requirements of the University. The academic programme (courses taught, dissertations written and exams taken) is approved by the University and the degrees and diplomas awarded by RIPS are those of the University.

12. RIPS currently has an M.A. programme and is in the process of arranging the introduction of an M.Phil programme and the expansion of a Ph.D. programme. In the light of present and future funding constraints however, it may be advisable to discourage the expansion of the Ph.D. programme as the limited number of staff available cannot possibly cope with the added work load involved in providing adequate supervision for the students.

4. Problems

13. In the 1970s both IFORD and RIPS received a lot of support from the host countries, UNFPA and other donors like the International Development Research Centre (IDRC), the French Ministry of Cooperation and the United States Agency for International Development (USAID). The 1980s, however, witnessed a dramatic change from the previous decade. The host countries found themselves bearing an increasing burden, without any support from the other African countries, as a consequence of the very nature of the two projects, which were not regional in character but were established as joint ventures between the UN and each of the two host countries. With the decentralization of the management of RIPS and IFORD from Headquarters to ECA in 1980, this problem found a solution as ECA initiated and completed the process of regionalizing the institutes by proposing for adoption to the General Assembly new statutes which make the member States parties to the institutes as regards their management and financing.

14. On the other hand UNFPA, following a recommendation of its governing council, had to decrease its support to both RIPS and IFORD by almost 20 per cent in order to comply with the ceiling of 25 per cent of resources allocated to non-national projects.

15. Member States have been invited on several occasions to pay their contributions to IFORD and RIPS. So far only few of them have fulfilled their commitments and the host countries have either continued to bear the local costs of running the institutes (RIPS) or the institutes have found themselves in acute financial difficulties (IFORD). This situation dictated the four options for the future of RIPS and IFORD proposed by the ad hoc committee to the Conference of Ministers.

5. Discussion of options proposed by the Ad Hoc Committee

16. The Governing Councils of both institutes met, in the case of RIPS on 26-27 June 1985 in Accra and for IFORD on 1-2 July 1985 in Yaoundé and held in-depth discussions on the report of the ad hoc committee The options were reviewed and the views expressed by both bodies can be summarized as follows:

Option 1 - that RIPS and IFORD should remain as separate institutes.

17. This option was retained, with concrete proposals such as keeping costs at the lowest level and fostering closer collaboration between the two institutions. In brief these proposals are based on the following grounds.

18. The two institutions although dealing with population, have each their own special characteristics. Both have developed curricula compatible with the teaching systems of the two sets of countries which they serve. For example, the diploma offered at RIPS required until recently 9 months, while at IFORD, 2 years were necessary in order to comply with the requirements of the rules of the civil services of most countries covered by the institute. RIPS has put emphasis on the social aspects of demographic analysis. IFORD, before its recent shift, devoted a lot of efforts on data collection. The curricula of the two institutions have become more alike, but still each has its own orientation, which is likely to continue in the medium term. RIPS is an integral part of the University of Ghana and does not grant separate degrees or diplomas, while IFORD has still to negotiate some linkages with the University of Yaoundé.

19. It was felt however, that these differences do not prevent the establishment of linkages between IFORD and RIPS and that co-ordination and undertaking joint activities could be formalized and should be initiated as early as possible.

20. In this respect the following actions were proposed by the governing councils of RIPS and IFORD.

(a) As RIPS has a Ph.D. programme and will start an M.Phil. programme, IFORD diplomates should be encouraged to apply for it. The language problem should be overcome by selecting for the programme, students fluent in English and by allowing them to write their dissertation in French.

(b) In so far as research applies to the African context, a joint cooperative research programme should be developed to mutually reinforce the potential of each institute.

(c) Consultancy services and meetings should be jointly coordinated and organized.

(d) A joint bilingual publication can be introduced that would publish papers prepared by the two institutes.

(e) As the high recurrent costs of the training institutions derive from the use of UN salary scales for professionals and of UN fellowships for students, the decline or even the cancellation of the UNFPA support would mean an impossibility for the member States to take over the funding of the two components - the UNFPA and the local. Therefore the ECA secretariat, as requested by both councils reviewed the problems with a view to reaching a solution as regards future funding. This review is given in the next section on funding possibilities.

Option 2 - that RIPS and IFORD remain at their present locations, but as one institution with a single governing body.

21. This option also was found to be expensive as extra costs will have to be borne to run a liaison unit which will coordinate academic and other activities of the two institutes. Furthermore, the official seat would have to be agreed upon by concerned parties.

Option 3 - that RIPS and IFORD be merged into one bilingual institution in one location

22. The difficulty with this option is the high cost of the interpretation and translation services. It has been estimated that these services would account for 30 to 40 per cent of the budget and would dramatically increase the running costs of the project, not to speak of the efficiency of the teaching.

Option 4 - that RIPS and IFORD be merged with the Institute for Economic Development and Planning (IDEP) and/or the African Centre for Research and Training in Social Development (ARARTSOD).

23. The financial problems of RIPS and IFORD are not so different from those faced by other institutions like IDEP and/or ACARTSOD. Therefore the merger would only complicate the issue. Moreover, IFORD and RIPS would lose their main objective which is training and research in population at a time when African countries must pay increasing attention to the demographic phenomena in their socio-economic policies. Besides this option may lead to the loss of the support of the main funder, UNFPA, which would necessitate a large increase in the share of the member States payments.

6. Funding possibilities

24. If IFORD and RIPS are to remain as separate institutes and to survive as such in the long run, the present financial problems and uncertainties have to be resolved. There is no doubt, as seen from Table I, that the present cost of the institutes are high. Furthermore recent experience has shown that African countries are unlikely to be able to provide such funding. If the institutes are to continue to function therefore, it is imperative to explore alternative funding possibilities. This examination of funding possibilities is aimed at studying the costs of running the institutes using salary and allowance levels of institutions such as the Organization of African Unity, ECA-sponsored institutions and universities in the host countries of the institutes. A review of the available documentation would suggest various possibilities.

Possibility A: The existing scheme which is likely to be discontinued if UNFPA reduces its support further or withdraws completely.

Possibility B: The use of OAU scheme as is done by institutions like the Mineral Resources Development Centre for Central Africa.

Possibility C: The use of "sui generis" scale as in institutions like the Regional Centre for Training in Aerial Surveys, Ile Ife.

Possibility D: The use of national scales which may be modified with the introduction of some incentives to attract the best teachers and students.

Possibility E: University salary scales which may be 1 1/2 or 2 times national Government scales.

25. Tables 1 shows the existing total costs which are shared by UNFPA and African Governments. The table also shows the costs if the existing UN salary scales are replaced by OAU scales.

Table 1: Comparative costs of IFORD and RIPS ($'000)

	U.N. Scale		OAU Scale	
	IFORD	RIPS	IFORD	RIPS
UN Funds	735	748	550	560
Member States Contribution	160	180	160	180
Fellowship costs	23	37	18	30

26. It should be noted that the contributions of member States represent budgeted costs rather than actual receipts. These costs can be compared to the estimated costs of the institutes using salary and allowance levels of other institutions. Table 2 shows a summary of the costs involved for both IFORD and RIPS using existing number of posts and salary scales and allowances payable in universities and some ECA-sponsored institutions. Annexes 2 and 3 give the detailed costs estimates. The tables show that if the existing number of posts of the institutes are retained, the cost estimates are very high compared to costs under a minimum establishment, except in the case where university salary scales are used. Table 4 gives additional cost estimates on items such as fellowship costs, vehicles as well as consultants and staff travel on missions. These costs are assumed to be about the same as at present.

27. An attractive alternative is the estimated costs based on the RECTAS scales which are more reasonable than the others and may be considered for adoption. The University of Yaoundé scales give costs which are close to the RECTAS scales. The University of Ghana scales however are very low in dollar terms. The estimated costs given in Annexes 2 and 3 can be considerably reduced through a review of each component and other cost-saving measures. The next section discusses some ways of reducing the running costs of the institutes.

Table 2: Summary of costs ($) of IFORD and RIPS using existing number of posts and allowances of Universities and some ECA sponsored institutions

	CAMRDC	RECTAS	ARCEDEM	UNIV. GHANA	UNIV. YAOUNDE
IFORD					
Professional Staff	201,820	138,230	185,820	-	158,395
Administrative Staff	49,670	62,535	72,720	-	52,060
Technical Stafff	6,020	21,080	26,985	-	10,000
Sub-total	257,520	221,845	285,525	-	220,455
Allowances	418,270	141,505	253,900	-	included
TOTAL	675,790	363,355	539,425	-	220,455
RIPS					
Professional Staff	183,204	124,820	169,280	7,690	-
Administrative Staff	69,076	99,020	103,780	13,100	-
Technical Staff	24,080	42,570	65,530	4,710	-
Sub-total	276,360	266,410	338,600	25,500	-
Allowances	387,700	162,550	283,780	Included	-
TOTAL	664,060	428,960	622,380	25,500	-

7. Means to make savings through better management of the institutes

STAFF

(a) Professional

28. A case has been made by UNFPA that both RIPS and IFORD need only 4 lecturers each. The ECA Review Mission of IFORD recommended 5 lecturers plus a computer specialist for processing survey data. One of these lecturers would be the Director. Apart from these 5 lecturers, part-time teachers/lecturers may be recruited to give specialized courses. The lecturers recommended by UNFPA and the ECA missions are given below. It is felt that the level of staff at IFORD should be comparable to that at RIPS so long as the activities at the two institutes are similar. The Ph.D. programme at RIPS however should not exceed 2 students per year as it has implications on the number of professional staff.

UNFPA PROPOSAL FOR RIPS AND IFORD	ECA ORGANIZED REVIEW MISSION ON IFORD
1 Director	2 Demographers for demographic analysis with one specializing in data collection
1 Expert on formal demography	1 Statistician for quantitative methods
1 Expert on research methodology statistics and sampling	1 Sociologue demographe
	1 Economiste demographe
1 Expert on population-development planning and socio-economic interrelations.	

(b) Other staff

29. In the case of RIPS, 38 posts are listed for funding from the contribution of African governments. These posts range from research fellows, to librarians, research assistants, clerks, typists, drivers and messengers.

30. In the case of IFORD, there are 3 posts of professeur and one post of assistant de recherche which should now be funded from the contributions of member States but have so far been funded by the Cameroun Government. In addition there are 16 posts of typists, duplicators and drivers to be paid from the contributions of African Governments.

31. It is clear that no university department catering for such small numbers of students as at RIPS and IFORD has such a large number of support staff. Serious consideration needs to be given to adopting non-UN salary scales for all the staff at both RIPS and IFORD and to reducing the total staff to the minimum necessary.

32. At IFORD the number of lecturers who are mathematicians or statisticians or economists by training should be reduced to only one so that more lecturers who are trained demographers can be recruited in their place. This will solve the present problem where basic demographic courses are taught by outside consultants.

33. At present both RIPS and IFORD use outside consultants to teach courses. Such consultancies should also be reduced to the barest minimum in order to cut down costs. The practice of recruiting consultants outside Africa to teach basic courses should also be discontinued. If any consultants are recruited at all, they should be those locally available. In order to compensate for discontinuation of the practice of recruiting consultants, more professional posts may be created.

34. Annex 4 presents cost estimates based on what is considered a minimum establishment for the two institutes. The estimates are based on local university salary scales as well as the RECTAS scales, which as shown in appendices 2 and 3 appear to be the most reasonable of the scales used by ECA-sponsored institutions. It will be noted that although UNFPA recommended only 4 professional teaching posts

and the ECA Review mission recommended 5 posts, a total of 7 teaching posts are included in the minimum establishment scenario for RIPS and IFORD. The two or three extra posts are meant to replace the use of outside lecturers and consultants and to promote research by staff. The M.A. course at RIPS is made up of 550 hours of lectures and 184 hours of laboratory, a total of 734 hours. In addition 360 hours are allocated for preparation of a dissertation and 10 hours for consultation. The total hours for the M.A. course is thus 1104 hours. As the course takes 12 months (52 weeks) the number of contact hours per lecturer, per week (assuming a staff of 5 lecturers) is only 5 or one hour per lecturer per day. This number is quite low and 7 teaching posts quite generous. The minimum administrative and support staff is proposed for both RIPS and IFORD with the objective of reducing the present high running costs of the institutes. However they are more than is usually available to a small department in an African University. Normally one typist for 2 professional staff is considered adequate. Furthermore, the proposed staff are adequate to support a demographic institute whose functions are teaching and research. It should also be borne in mind that financing expensive regional institutions has proved to be beyond the means of African governments. The institutes thus need to be tailored to the funding ability of member States.

(c) Administration

35. At RIPS there are two administrative officers whilst there is only one at IFORD. One of the posts of administrative officer at RIPS needs to be abolished as the volume of work does not justify 2 posts and the roles of the two officers overlap. Furthermore UNFPA has recommended the abolition of the post of UN administrative officer. In any case if UN funding of the institutes stops, there would be no need for a UN administrative officer. In this case the administrative officer would be paid at the salary scales adopted for RIPS and IFORD as is the case for the other ECA regionalized sponsored institutions.

36. The number of posts of clerks, accounting assistants, typists and drivers also needs to be reduced considerably at RIPS and to a lesser extent at IFORD.

(d) Transportation

37. Despite the fact that RIPS is located on the campus of the University of Ghana with all students being resident on campus, it still operates a fleet of vehicles consisting of 2 buses and one 504 familiale. It has on order another bus and two 505 familiale cars. The only strong justification for buses is the annual field survey by students. As regards cars, perhaps only one car can be justified for making trips to Accra to purchase supplies for the institute.

38. At IFORD there is one bus in running order plus three cars (one Peugeot 504 familiale and one Renault 20 and one Renault 4). There is also one 505 SR on order. Here too the number of vehicles operated by the institute should be reduced to one bus and one car. The need for a bus at IFORD will be less if the institute and its students were to move to a location in or near the University of Yaounde. The proposal to reduce the number of vehicles operated by the institutes will result in considerable savings of funds.

(e) Fellowships

39. At the last Governing Council Meeting of RIPS in June 1985, queries were raised as to why students should be provided with free boarding and lodging and still be paid stipends which were based on the cost of their feeding themselves and which are much higher than the salaries of University of Ghana professors. The present stipends may need to be reduced or alternatively RIPS may want to stop paying for the boarding of students. Ideally RIPS or IFORD students should be paid stipends that are at par with post graduate students of the Universities of Ghana and Yaounde. It is thus desirable that a review of the stipends be undertaken.

40. More savings can be made through discontinuing the present system whereby M.A. students at RIPS are sent to their home countries for data collection for their thesis. The practice has been criticised by UNFPA in the past and also by the recent Governing Council Meeting.

8. Other Costs

41. Apart from the staff costs estimated in appendices 2, 3 and 4, other costs of RIPS and IFORD are as follows: (a) Fellowships (b) Staff Travel (c) Research activities (d) Vehicle and Equipment Costs (e) Accomodation for the institutes (f) Consultants and (j) Administrative and maintenance costs. The estimated costs of these items are given below with the exception of office accomodation which is normally provided by the host country.

Table 3 - Estimated annual cost in US Dollars of non staff costs

Item	RIPS	IFORD
1. Fellowship	160,000	160,000
2. Staff travel	15,000	20,000
3. Consultants	10,000	15,000
4. Research Activities	10,000	10,000
5. Vehicles	10,000	10,000
6. Other Equipment	8,000	6,000
7. Office Accomodation	-	-
8. Administrative and maintenance costs	10,000	10,000
	223,000	231,000

9. Total Costs

42. If these other costs are added to the staff costs estimated under the minimum establishment scenario the total costs would be as shown below. It is suggested that UNFPA should continue to provide funding for professional staff and fellowship costs whilst the country contributions can finance all other expenditures.

Table 4 - Total Estimated Annual Cost of RIPS and IFORD using minimum establishment scenario

Item	University of Ghana (RIPS))	RECTAS	University of Yaounde (IFORD)
Professonal staff	6,080	98,010	112,705
Other staff	10,250	97,330	89,600
Allowances	-	96,635	50,000 1/
Fellowships	160,000	160,000 2/	160,000
Other costs	63,000	67,000 2/	71,000
Total	239,330	518,975	483,305

10. Conclusion

43. It is clear from Annex 4 that the RECTAS scales under the minimum establishment scenario, yield staff cost estimates which are about a half of these costs at present. Alternatively the national university scales supplemented by the RECTAS allowances may be considered.

44. At present both RIPS and IFORD each receive over $700,000 annually from UNFPA. In addition Ghana Government support to RIPS can be estimated at about Cedi 500,000 ($15,000) and IFORD receives an average of CFA33,000,000 ($77,600) from its member countries. As Table 4 shows, the total estimated costs of RIPS and IFORD would be $239,000 and $483,000 respectively. The staff costs at RIPS (which account for a major proportion of the budget) would vary from $25,490 (University of Ghana salary rates to $338,600 (ARCEDEM salary rates), if the present number of posts is retained (Annex 3). Between these two extremes the costs using the RECTAS scales appear to be the most reasonable. These amount to $266,400 for salary costs and $162,550 for allowances. In the case of IFORD the staff costs vary from $220,455 (University of Yaounde salary rates) to $285,525 (ARCEDEM) (Annex 2).. It should be noted that the University of Yaounde salary rates include housing allowances and Technical and Research allowances for professional staff. The costs under the RECTAS salary rates are about the same as those for the University of Yaounde. It should be noted that these costs are between a half and a third of the present annual cost of the institutes. In the case of IFORD, adoption of the University of Yaounde scales would appear to be a reasonable proposition. In the case of RIPS however the University of Ghana scales are too low in dollar terms and the RECTAS salary scales and allowances should be considered for adoption. Annex 4 which assumes a minimum establishment scenario shows that the total staff costs can be greatly reduced with a reduction

1/ This figure is an arbitrary estimate for allowances not provided under the University of Yaounde rates.

2/ These costs under RECTAS are merely the averages of the RIPS and IFORD estimated costs shown in Table 3.

of the administrative and technical staff. Under this scenario the salary costs even under the RECTAS scales would amount to only $97,330. The comparable costs using the University of Yaounde and the University of Ghana rates are $89,600 and $10,250 respectively.

45. From this analysis it seems that the institutes can continue to function as teaching and research centres at reduced cost more in line with the limited resources of African countries. It should however be borne in mind that the analysis is merely exploratory, aimed at examining possible alternatives to assist in finding a solution. It should thus not be seen as a definitive budgeting exercise on the future establishment level or operation of the institutes.

46. As discussed under section 7 (option 1) RIPS and IFORD can undertake joint activities such as publications. These activities would not increase the present level of expenditure on these items.

ANNEX I

alary Rates Per Annum for some ECA sponsored institutions and African Universities
(in US dollars ($) and Naira (N)

	Professional Staff	University of Ghana 1985	CAMRDC 1985	RECTAS 1984	ARCEDEM 1981	Universit of Yaound 1985
.	Director (Professor)	$1030	$23996(P6/1)	N13776(P9)	$30000(D2)	$18,265
..	Senior Lecturer (Head of Department)	922	23744(P5/4)	12894(P8)	19992(P5)	16,760
.	Lecturer	802	18620(P4/1)	11934(P7)	16548(P4)	15,230
..	Research Fellow/Professeur local	802	18620(P4/1)	11934(P7)	16548(P4)	15,230
	Administrative staff					
.	Senior Officer/Administrator	869	6020(GS8)	6840(E9)	10435(GS9)	15,230
.	Officer/Private Secretary	802	4410(GS7)	5268(E8)	6467(GS7)	3,550
.	Senior Clerk Typist/ Dactylographe	632	4410(GS7)	4240(E7)	6467(GS7)	3,000
.	Clerk Typist/Roneotypeur/Aid comptable/Data [illegible] Clerk	603	3220(GS6)	3540(E6)	5126(GS6)	3,000
.	Driver	602	1876(GS2)	2685(E4)	2898(GS2)	3,110
.	Messenger/Cleaner/Guardien	544	1876(GS2)	2154(E2)	2898(GS2)	1,488
.	Librarian/Documentalist	922	6020(GS8)	11934(P7)	16548(P4)	5,500
.	Asst. Librarian	802	4410(GS7)	6840(P2)	10435(GS9)	
.	Translator	802	6020(GS8)	9384(P4)	11490(P2)	--
.	Library Assistant	603	3220(GS6)	2892(E5)	5162(GS6)	--

CAMRDC: Central African Mineral Resources Development Centre

RECTAS: Regional Centre for Training in Aerial Surveys

ARCEDEM: African Regional Centre for Engineering Design and Manufacturing

ANNEX II

Annual estimated costs of IFORD using existing number of posts and salary rates and allowances of Yaounde University and some ECA sponsored institutions (in US dollars)

	CAMRDC	BLCTAS	ARCEDEM	University of Yaounde
1. Professional staff				
1 Director	$ 23,996	$ 15,392	$ 30,000	$ 18,265
2 Senior Lecturers	47,488	28,975	39,980	33,520
2 Lecturers	37,240	26,818	33,100	30,460
2 Researchers	37,240	26,818	33,100	30,460
3 Professeurs (Local)	55,860	40,226	49,640	45,690
	$201,824	$138,229	$185,820	$158,395
2. Administrative Staff				
1 Senior Officer (Administrator)	6,020	7,685	10,435	15,230
1 Officer (Private Secretary)	4,410	5,919	6,467	3,550
3 Senior Clerk/Typists (Dactylographe)	13,230	14,292	19,401	6,000
2 Roneo typeur	6,440	7,955	10,252	6,000
3 Drivers	5,620	9,050	8,694	9,330
1 Aide Comptable	3,220	3,977	5,126	3,000
1 Messenger	1,376	2,420	1,696	1,490
3 Guards	5,628	7,260	5,088	4,460
1 Data Processing Clerk	3,220	3,977	5,561	3,000
	$ 49,672	$ 62,535	$ 72,720	$ 52,060
Sub-total (1+2)	$251,496	$200,764	$258,540	$210,455
3. Technical staff				
1 Documentalist	$ 6,020	$ 13,409	$ 16,550	$ 5,500
1 Assistant Documentalist		7,685	10,435	4,500
	$ 6,020	$ 21,094	$ 26,985	$ 10,000
Sub-total 1+2+3	$257,516	$ 221,858	$285,525	$220,455
4. Allowances				
Transport (GS)	-	-	6,733	-
Installation	$104,500	$ 18,469	-	-
Housing	40,000	30,332	103,502	included
Education	66,900	20,898	-	
Medical Insurance	6,500	Free treatment	-	
Travel (leave)	26,000	7,015	5,340	
Dependents	22,400	18,204	-	
Post adjustment	80,736	-	78,360	
Pension 21% of Net salary	59,336	46,588	59,960	
	$418,272	$141,506	$253,900	
Total (1+2+3+4)	$675,788	$363,354	$539,425	$220,455

ANNEX III

Annual estimated costs of RIPS using existing number of posts and salary rates and allowances of some ECA sponsored institutions and the University of Ghana (in US dollars)

	University of Ghana	CAMRDC	RECTAS	ARCEDEM
1. Professional staff				
1 Director	$ 1,030	$ 23,996	$ 15, 392	$ 30,000
2 Senior Lecturers	1,844	47,488	28,975	39,980
2 Lecturers	1,604	37,240	26,818	33,100
4 Research Fellows	3,216	74,480	53,636	66,200
	$ 7,694	$183,204	$124,821	$169,280
2. Administrative staff				
2 Senior Officers	$ 1,738	$ 12,040	$ 26,020	$ 20,870
3 Officers	2,406	13,230	17,757	19,400
3 Senior Clerk/Typists	1,896	13,230	14,292	15,380
6 Clerk/Typists	3,618	19,320	23,365	30,760
3 Drivers	1,806	5,628	9,050	8,690
3 Messenger/Cleaners	1,632	5,628	7,260	8,690
	$13,096	$ 69,076	$ 99,024	$103,790
Sub-total (1+2)	$20,780	$252,280	$223,845	$273,070
3. Technical Staff				
1 Librarian	$ 922	$ 6,020	$ 13,409	$ 16,550
2 Assistant Librarians	1,604	8,020	15,370	20,270
1 Library Assistant	580	3,220	3,249	5,130
2 Translators	1,604	6,020	10,544	22,980
	$ 4,710	$ 24,080	$ 42,572	$ 65,530
Sub-total (1+2+3)	$25,490	$276,360	$266,417	$338,600
4. Allowances				
Transport (GS)		-	-	9,570
Installation		$ 58,000	$ 21,249	-
Housing	Available	43,200	32,760	112,710
Education	-	69,600	23,876	- --
Medical Insurance	Free treatment	5,050	Free treatment	-
Travel (leave)		23,500	7,983	6,910
Dependents		20,300	20,733	-
Post adjustment		73,288	-	83,390
Pension (21% of net salary)		53,962	55,948	71,100
		$387,700	$162,554	$283,700
Total (1+2+3+4)		$664,060	$428,971	$622,300

ANNEX IV

Annual cost of IDPS or IFORD using a minimum establishment scenario and salary scales of three institutions (in US dollars)

		University of Ghana	RECTAS	University of Yaounde
1. Professional staff				
1 Director	P6	$ 1,030	$ 15,390	$ 18,265
2 Senior Lecturers	P5	1,840	28,980	33,520
4 Lecturers	P4	3,210	53,640	60,920
		6,080	98,010	112,705
Other staff				
1 Administrative Secretary	P3/P4	870	13,410	15,230
1 Secretary		300	5,920	3,550
3 Clerk/Typists		630	4,760	18,000
1 Clerk		610	3,980	3,000
1 Finance clerk		610	3,980	3,000
2 Drivers		1,200	6,030	6,220
2 Messengers/Cleaners		1,090	5,240	3,000
1 Programmer	P3/P4	800	13,410	6,000
1 Librarian P3/P4		800	13,410	5,500
1 Asst. Librarian	P2	740	7,690	4,500
3 Research Assistants		2,100	19,500	21,600
		10,250	97,330	89,600
Allowances				
Installation			6,490	
Housing		Available	16,320	
Education		-	16,850	
Medical Insurance		Service free	Free	
Travel (leave)			5,520	
Dependents			-	
Post adjustment			14,330	
Pension 21% of net salary			36,925	
			96,635	
TOTAL		$16,330	$193,965	$202,305

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POPULATION DYNAMICS IN AFRICA

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ANNEX

I. INTRODUCTION

1. At the Expert Group Meeting on Fertility and Mortality Levels Patterns and Trends in Africa that was held in Monrovia in 1979 it was underscored that most of the censuses undertaken during the 1970s rounds of censuses had been analyzed but there was need for further valuable comparative analysis by ECA or with the collaboration of ECA 1/. Furthermore, the third session of the Joint Conference of African Planners Statisticians and Demographers (Addis Ababa, March 1984) urged the secretariat to report on current estimates of fertility and mortality in the ECA member States. The Second African Population Conference (Arusha) went even further by adopting a set of recommendations on the collection processing and analysis of population data so that such research would enhance awareness of population dynamics 2/.

2. The secretariat has since undertaken studies in the area of fertility and mortality aimed at identifying the levels, patterns, trends and differentials and their socio-economic determinants in some African countries. Evidence has indicated that it is difficult to give an overall picture of fertility and mortality levels, patterns, trends and differentials because of lack of series of demographic data, problems of data collection, methodology and techniques of demographic analysis that would be suitable to derive plausible estimates of fertility and mortality. These and other problems limit the scope of this paper to consider only the current estimates of fertility and mortality in some ECA member States. As far as possible most recent population census and demographic survey data including data collected as part of the World Fertility Survey (WFS) programme have been used similarly various demographic techniques were applied to derive current estimates of fertility and mortality. The paper is divided into two major parts: the first being on fertility estimates and the other presents the mortality situation in selected African countries.

II. ESTIMATES OF CURRENT LEVELS OF FERTILITY IN AFRICA

2.1 Source of Data

3. Fertility data on most African countries are fragmentary and inaccurate. Despite the efforts of national and international organizations to improve the quality of population data of African countries, an exhaustive and reliable system of civil registration will have to be established before reliable fertility indices on most African countries could be available. In fact only four countries. Algeria, Egypt Mauritius and Tunisia have been able to establish a system of birth registration which can be used to calculate fertility indices.

1/ ECA, Population Dynamics, Fertility and Mortality in Africa, ST/ECA/SER.A/1 Addis Ababa 1981, pp. 1-3

2/ ECA, Kilimanjaro, Programme of Action on Population ST/ECA/POP/1. Addis Ababa 1984.

4. The population - related activities carried out since independence provided data which were used to estimate fertility indices that could reasonably be accepted for most African countries. There are three main sources of information on fertility Population censuses and post-censal surveys; surveys on knowledge attitudes and practice of family planning (KAP Survey) and fertility surveys.

5. Although there is still considerable uncertainty regarding Africa's fertility data situation, much progress has been made during the past 20 years and the surveys carried out as part of the World Fertility Survey contributed considerably to improving knowledge of the levels, trends and determinants of fertility in African countries.

6. The World Fertility Survey carried out by the International Statistical Institute in collaboration with the United Nations Fund for Population Activities (UNFPA) and the International Union for the Scientific Study of Population (IUSSP), was a major international research programme on human fertility. It is a retrospective study. Thirteen of the 42 countries covered by the programme are African: Benin, Cameroon, Côte d'Ivoire, Egypt, Ghana, Kenya, Lesotho, Morocco, Mauritania, Nigeria, Senegal, the Sudan and Tunisia. The geographical breakdown of those countries is as follows: West Africa six; North Africa four; southern Africa, one East Africa, one and Central Africa one.

7. This document mainly considers data on fertility levels and structures generated by the national fertility surveys undertaken within the framework of the World Fertility Survey.

2.2 Fertility levels and structures

2.2.1 Crude birth rate and crude reproduction rate

8. Africa covers about a quarter of the world's surface area and its population which accounts for 11 per cent of the world's population, was estimated in mid-1984 at 540,000,000 inhabitants.

9. The levels of fertility in Africa correspond to what L. Henry described as 'natural fertility', i.e., fertility without any deliberate attempt to limit births, and are relatively higher than the rates observed in other regions of the world 3/. The United Nations estimated the crude birth rate of the African population between 1980 and 1985 at 46 per 1000 which is in sharp contrast to the world average of 27 per 1000 during the same period 4/. Previous estimates for the continent for the periods 1960-66 and 1970-75 show that generally there was no substantial decline in those rates 5/. Table A 1 in the annex shows the crude birth and reproduction rates for African countries during the period 1980-85.

3/ Henry, L. "Some data on natural fertility", Eugenics Quarterly, Volume 8, 1961, Pages 81 to 91.

4/ United Nations, World Population Prospects-Estimates and Projections as assessed in 1982, 1984, New York.

5/ United Nations, Demographic Year Book 1977.

10. Estimated rates by regions indicate that East Africa and West Africa have the highest rates (of about 49 per 1000 for the crude birth rate and 3.4 for the crude reproduction rate), followed in descending order by Central Africa, North Africa and Southern Africa which have crude birth rates of 45 per 1000, 42 per 1000 and 40 per 1000 respectively.

11. Estimates of rates by country show that on the whole all African countries birth rates above 44 per 1000 there are however three exceptions to this rule. The first exception includes islands such as Mauritius Reunion, Cape Verde, the Seychelles and Saint Helena. The first three island countries for which data are available, have birth rates varying between 1.10 and 1.35. The second is comprised of a number of Central African countries namely Gabon, Cameroon, the Central African Republic, and Equatorial Guinea where fertility is kept relatively low by pathological causes rather than by human decision and action.6/. The third consists of Tunisia and Egypt where fertility fell through family planning programmes.

12. To carry out a more comprehensive comparative study on the levels and structures of fertility in Africa this document will be restricted to the 13 countries that participated in the World Fertility Survey. The surveys adopted a multi-stage random sampling method which was representative at the national level.7/. Cumulative fertility and initial fertility will be used to measure levels of fertility while the fertility structure will be studied from age specific fertility rates.

2.2.2 Cumulative fertility

13. The mean number of live births is a retrospective measure of fertility. It measures the total number of live births of each woman since the beginning of her reproductive life. However because of omissions and under reporting with respect to retrospective surveys, this index generally results in an under estimation of fertility. Table A. 2 in the annex shows data on the mean number of live births of ever-married women by age at the time of the survey.

14. Generally speaking, early marriage exposes African women very early to the risk of child bearing and maximizes their reproductive capacity. A newly married couple is very often subjected to all sorts of social pressure to have the first child and other children. A childless woman has no value whatsoever in the eyes of society. In such a cultural context fertility should be expected to be very high.

15. The findings of the national fertility surveys confirm the relatively high levels of fertility at all ages in the 13 countries.

6/ J.C. Caldwell, Perspectives on Fertility and Mortality in Africa, E/CN.14/POP/145, October 1979.

7/ See the description of the sampling plan in the analysis reports of the initial results of the national fertility surveys Volume I.

16. The data in Table A.2 show that the mean number of children born to all women varies between 3.19 in Lesotho and 4.84 in Kenya. The corresponding figures observed in some industrialised countries in 1982 are as follows: the Federal Republic of Germany 1.40; France: 1.94, the United Kingdom 1.79 and the United States of America 1.89 8/.

17 Almost everywhere, women aged between 45 and 49 have a completed fertility of six to seven children. The two exceptions to this rule are Lesotho and Cameroon where the completed fertility of ever married women aged between 45 and 49 is about five children. This is probably the result of male emigration from Lesotho and sterility in Cameroon.

2.2.3 The incidence of sterility 9/

18. The world sterility is used in demography to denote the inability to produce live children. A distinction is made between primary sterility where the woman is never able to have children and secondary sterility, which arises after at least one child has been born.

(a) Primary sterility

19. Sterility could be calculated from the percentage of ever-married women aged between 45 and 49 who have never declared any live births. This index gives the proportion of women who could be considered as being definitely infertile.

20. It is then interesting in this case to note that the level of primary sterility thus obtained is relatively low and is below five per cent and even four per cent in most of the countries studied (Table A.3 in the annex). Morocco, Nigeria and the Sudan have an unusually high level of primary sterility for countries where this type of sterility does not appear to be a serious problem. These figures were in fact cautiously interpreted by the authors of the reports analysing the findings of the national fertility surveys who felt that primary sterility might have been overestimated because of under reporting particularly the confusion between the fact of not having had "any live births" and not having had "any children at all" These authors feel that the best estimate of primary sterility in Morocco is the proportion of 5.4 per cent observed for women between the ages of 40 and 44 who are still childless whilst in Nigeria and in the Sudan the respective proportions of 6 per cent among women between the ages of 30 and 34 and 5.3 per cent among those aged between 35 and 39 would be the best estimates 10/.

21. In cameroon, the proportion of 14 per cent of women aged between 45 and 49 without any live births is remarkably high for a pronatalist population. Although because of under-reporting, this proportion might not exactly reflect the level of sterility, it is close to the proportion of 12 per cent of women

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8/ Population et société, No. 173, October 1983.

9/ To simplify matters we will talk about infertile or sterile women. Sterility or infertility may affect either the wife or the husband or both spouses at the same time.

10/ Enquête Nationale sur la Fécondité et la Planification Familiale au Maroc. Rapport national 1984 - vol. III page 22. The Nigeria Fertility Survey Principal Report, 1984 - vol. I. page 75. The Sudan Fertility Survey Principal Report 1981 - vol. I page 53.

who had unproductive pregnancies at the time of the survey that proportion was considered as the actual level of primary sterility which is thus very high in Cameroon 11/.

(b) Secondary sterility

22. A study of the parity progression ratios among women who have virtually reached the end of their reproductive lives can provide an idea of the extent of secondary sterility. Such ratios indicate for a specific birth order, the proportion of women who have at least one additional child. The ratios are shown in Table A.4 in the annex and indicate that on the whole the fertility pattern of women aged between 45 and 49 has indeed conformed to the model of natural fertility. Thus, almost everywhere more than 80 per cent of women with seven children have an eighth child.

23. This fertility model appears however to have been hindered for some Cameroonian women by primary and secondary sterility. Thus, in the case of nulliparous women not only is the probability of having a first child relatively low as compared to the probabilities observed in other countries, but the values attained in the other birth orders are proof of the growing number of women affected by secondary sterility in Cameroon.

24. Obviously, greater attention should be devoted to the problem of sterility and thorough investigations should be carried out to identify all the aspects of sterility especially as a determinant of population behaviour.

25. In this regard, O. Frank rightly wrote that if the problem of female infertility was not tackled soon bringing about a decline in fertility in Africa might be delayed because the uncertainty of bearing children frustrates internal and external pressure to reduce the number of desired children.

26. Working on the assumption that the percentage of women without any live births was three per cent, which one should normally expect in developing countries, Odile Frank examined the incidence of sterility in sub-Saharan Africa and identified certain areas of high sterility in a considerable part of Central Africa: the Central African Republic, south-west Sudan, north Zaire, the Congo, Gabon and Cameroon 12/.

27. There are of course many potential causes of sterility. However, when contemporary literature on the subject is studied it is realized that venereal diseases, including particularly syphilis and gonorrhoea, are considered the main causes of sterility in Africa which is therefore of pathological origin. The World Health Organization cites in addition some diseases associated with relatively high levels of sterility such as genital tuberculosis abortion related infections or puerperal infections, filariosis etc. 13/. The diet, state of health, malnutrition, endogamous marriages also seem to have an adverse effect on fertility.

11/ Enquête nationale sur la fécondité du Cameroon - Rapport principal 1983, vol. I, page 66.

12/ Odile Frank. Infertility in Sub Saharian Africa: Estimate and implications Population and Development Review, Volume 9 No 1 March 1983. pp. 137-144.

13/ WHO, Epidemiology of infertility technical reports series, Geneva, 1975, no. 582.

23. Unfortunately because of insufficient data the incidence of all these potential causes of sterility in Africa cannot be evaluated.

2.2.4 Initial fertility

29. Unlike the period covered by cumulative fertility, fertility at the beginning of marriage or initial fertility covers only the first five years of marriage Initial frequency therefore analyses behaviour with respect to fertility at the beginning of reproductive life. It has often been thought that if the duration of exposure to the risk of conception is reduced among population that have been influenced very little by Malthusianism, and where the fertility level depends considerably on both the frequency of sexual relations and the duration of marriage, cumulative fertility could then be expected to decline. That is why many recommendations advocate a rise in the age at first marriage in order to delay as much as possible the beginning of women's reproductive life. The age at first marriage has thus become one of the least controversial instruments of population policy. Although among some populations the period of reproduction and hence that of exposure to the risk of conception begins with marriage such is not always the case everywhere. Although many factors such as education, urbanization and social standards with respect to childbearing could certainly delay marriage they could in addition cause some divergence in childbearing behaviour and exposure to conception could happen outside marriage

30. We will try to analyse the impact of age at first marriage on fertility at the beginning of marriage which will be described by two indicators: the interval between marriage and the first birth and the mean number of live births by woman during the first five years of marriage. The analysis will therefore be limited to women married for the first time five years or more before the survey

(a) Interval between first marriage and first birth

31. The data presented in tables A.5 and A.6 in the annex show the mean interval between first marriage and first birth and the percentage of women with children before the marriage by age at the first marriage.

32. For all the women considered, the mean duration of the first interval is between 18 months in Benin and 36 months in the Sudan. However, for most of the countries the duration is about 20 to 22 months. Depending on the age at first marriage, the longest duration was observed among women who were relatively young at their first marriage(less than 15 years old). The shortest duration was generally observed among women who were older than 20 at their first marriage

33. The effect of age at first marriage is more striking with respect to the percentages of women who had children before their first marriage (table A.6). There is a steady increase in these percentages as the age at first marriage increases. There are however two exceptions to this rule: Egypt and Tunisia where there does not appear to be any illegitimate births. These findings could be interpreted as the consequence of social fertility standards in African societies which make women who marry late in life want to "catch up" with those who married early in life with respect to fertility. Thus, if at the first marriage a woman is older, she "feels" she is late and wants to quickly make up for lost ground. This will be all the more feasible because the women marry at an age when their childbearing faculties are more developed.

(b) Mean number of live births in the first five years of marriage

34. Table A.7 in the annex gives the mean number of live births during the first five years of marriage to still married women during the period by age at first marriage. The increase in fertility at the beginning of marriage suggested by the shortening in the mean duration of the interval between marriage and the first birth at the same time as the rising age at first marriage is confirmed by the indicator in the table.

35. Indeed, the mean number of live births during the first five years of marriage clearly shows the trend towards an increase in fertility at the beginning of marriage which is linked to the rising age at first marriage in the counries studies.

36. The attempt - women who married rather late to catch up with respect to fertility therefore begins probably during the first years of marriage. However, if its is accepted that these categories of women are those who live in cities and/or are women who have a relatively high level of education it could then be assumed that they will tend to have the number of children desired more rapidly and stop producing children earlier. Since they are better informed about basic health care, they have more confidence in their children's chances of survival and desire to have smaller families. This would not be the case of rural women who generally marry younger and whose children are more exposed to the risks of death. Rural women would tend to have children at the same rate until the end of their reproductive life in the hope that as many of them as possible will survive. They no longer under any social pressure.

37. Even if these findings can be interpreted in several ways, they show that if the policy aimed at increasing the age at first marriage is necessary it is not enough to change the childbearing pattern in the countries studies; it should make provision for appropriate related measures to ensure that when the objective is attained it will not result in an increase in fertility and greater risks of premarital conception.

2.2.5 Structure of fertility

38. The fertility structure will be studied from the fertility rates calculated by the age of the mothers over a period of five years prior to the survey. Table A.8 in the annex shows age-specific fertility rates and this structure has been standardized (table A.9 in the annex) to facilitate comparison.

39. The total fertility rates obtained from this system of rates shows that the fertility index is very high in the countries studied. The levels of fertility observed are about three times as high as the level of 2.2 required to renew a given population. Thus total fertility is between 5 and 7 children the record of 8 children is observed in Kenya.

40. Adolescent fertility (15-19 years) is relatively high: the rates observed are about 100 births per 1,000 women in Egypt, Morocco and Lesotho and are generally about 150 per 1,000 in the other countries. The only exception is Tunisia which has a very low rate of 34 per 1 000 among the 15 19 age group.

41. The age pattern of fertility is characterised by a wide spread of births throughout the period of reproduction. Although the relative age specific fertility rate (table A.9) are at a maximum between 20 and 30 years, they are often between 25 and 29 years. The curves of these rates have the same form but the shift towards the right of the curve of the relative rates calculated for Tunisia is probably the result of a change in the fertility schedule in Tunisia.

42. The data in table A.10 in the annex could be used to work out in what proportion certain age groups contributed to total fertility.

43. The contribution of adolescents (below 20 age group) to total fertility is about 10 to 15 per cent in all the counrties studied: this proves the precocity of the fertility schedule in those countries except Tunisia where adolescent fertility accounts for only a very small proportion of total fertility.

44. Women aged between 20 and 29 years and those aged between 30 and 49 years account for about the same proportion of total fertility and such proportions are often much higher than 40 per cent. In some countries, the contribution of the intermediate age groups (20 30 years) is higher than that of the 30 49 age group and is even remarkably high in Egypt and Morocco where women between the ages of 20 and 30 account for up to 50 per cent of total fertility.

45. To sum up the contribution of the various age groups shows that in some African countries the fertility schedule conforms to a normal pattern where women bear children until they are around 45 years of age. Early menopause is thus rare.

III. REPORT ON CURRENT ESTIMATES OF MORTALITY IN ECA MEMBER STATES

3.1 Scope of the Study

46. Information on mortality levels, patterns, differentials and trends play important and diversified roles in development planning in many countries. The mortality data, for instance on estimates of infant mortality rates or expectation of life at birth ar important indicators of socio-economic and health status of any country. Information on mortality levels in Africa is scarce because no comprehensive system of collecting data on mortality exists. Most countries in the region have not developed vital registration systems needed to obtain adequate data for mortality estimation. However, available data from censuses and surveys have been used to obtain estimates which suggest that mortality levels in Africa are among the highest in the world.

47. Recent estimates of mortality provided by United Nations suggest that crude death rates for countries in Africa are about 20 per 1000 population and infant mortality rates exceed 100 per 1000 live births. A peculiar feature of mortality in the region is the persistence of the high incidence of second year deaths. In fact, it has been estimated that about a third of all chidren born in Africa die before they attain the age of five. This high level of mortality, particularly that of infant and child mortality explains the relatively short average life span at birth of about 50 years in almost all African countries.

48. The objective in this section of the paper is to review recent studies undertaken by ECA, which aimed at identifying mortality levels, patterns, trends and differentials in some countries in Africa. So far three studies have been completed for four selected countries in each of the Eastern, Western and Northern sub-regions. The countries included in the studies had recent population census and demographic survey data, data from some form of vital registration system and availability of medical records from health institutions. On these bases, we covered Kenya (censuses 1969, 1979), Malawi (censuses 1966, 1977), Tanzania (censuses 1966, 1978) and Zambia (censuses 1959, 1974) in Eastern Africa. In Western Africa we included Gambia (censuses 1962, 1973), Ghana (censuses 1960, 1970), Liberia (censuses 1962, 1974) and Sierra Leone (censuses 1962, 1974)' and lastly in Northern Africa we included Egypt (censuses 1960, 1976), Morocco (censuses 1960, 1971), Sudan (census 1973) and Tunisia (censuses 1966, 1975). These series of studies would continue to cover as many countries as possible in all other subregions in order to have comprehensive mortality information on general mortality and that among infants and early childhood mortality.

3.2 Mortality Levels and Trends

49. Many types of mortality measures are used as indicators of mortality. Some of these measures refer to all ages combined while others refer to specific age groups of cohorts. In Table A.11 (annex) we present three such measures, namely, crude death rate (CDR) which is defined as deaths in a particular year for all ages combined divided by total mid-year population. CDR is a crude indicator of mortality levels because it is influenced by age composition of population.

50. The second measure which is commonly used is the expectation of life at birth (P_o). This index summarizes average life span by using knowledge of mortality to new borne to measure the number of expected years of future life, the average life, for a cohort of new borne infants. This is a refined measure of mortality, it is not influenced by age distribution of population and it can be used to compare mortality levels of countries. The third measure presented in this table is the infant mortality rate (IMR) defined as the number of infant deaths in a year divided by the number of total live births in that year.

51. The mortality data presented in Table A.11 reveal that mortality is still high in the region, and secondly, the level of mortality dropped in the intercensal period in all countries included in this table. Within each sub-region levels of mortality were different. In terms of both series of data, the countries that had highest estimates of p_o, were Kenya and Egypt in Eastern and Northern subregions respectively. In West Africa where Gambia had highest estimates of 1_o in 1960s was superceded by Ghana whose estimates of p_o in 1970 were the highest. The third aspect of mortality revealed in this table is that male mortality in every country is higher than that for females except for some countries in Northern Africa, where estimates of p_o for females are lower than for males such as in the Sudan. Although the census of this sex differences in mortalityare not yet clear, evidence from India and Pakistan data leads one of the suggestion that the better care for male children contribute this difference.

3.3 Mortality Pattern and Differentials

52. Mortality levels, patterns and trends tend to be influenced by age and sex. Suitable data for analyzing the age pattern of mortality of African Populations are not available for almost all countries since data from comprehensive vital registration systems do not exist. However, it has been established, where reasonably reliable data exist, that age patterns of mortality in high-mortality countries are invariably U-shaped, with high infant and childhood death rates and high and rising deaths in the younger and older age groups respectively. 14/ African populations are characterized by high infant and childhood death rates. Mortality rates drop to relatively low levels during later childhood and early childhood but begin to rise again after thirty-five years of age. For lack of comparable data analysis is only on sex differentials in mortality.

53. The sex patterns of mortality revealed in Table A.11 are that mortality levels are higher for males than females. All the three indices of mortality suggest higher male than female mortality for both series of data for all countries. However, there is a peculiar observation for data from some countries in Northern Africa. Estimates of CDR and IMR for 1960 series of Morocco and Tunisia are lower for males than females. Estimates of 1_o for males are greater than for females in these countries. This observation was presistent in the 1970 series of data for Morocco, but situation was reversed for Tunisia. The sex pattern of mortality for Sudan also suggest higher female than male mortality. This rather unusual sex pattern of mortality may be true for the countries in the North Africa subregion and it may also suggest important stages in the demographic transition theory that high mortality countries with strong cultural values for survival of sons do tend to be subjected to reversed sex patterns of mortality. The differences in the sex patterns of mortality among the countries within Northern Africa are significant. Thus the sex differentials in mortality in Tunisia has been declining lead one to suggest that increased universal education and

14/ UN Levels and trends of mortality since 1950, ST/ESA/SER.A/74, NY 1982, P.8

other social reforms in favour of females not only reduce mortality but also reduce higher female mortality. Data in the table suggest that mortality levels were highest among countries in Western Africa and lowest for those in Northern Africa. Estimates of p_o based on either 1960s series or 1970s series of data show highest life expectancy at birth for countries in North Africa followed by these in Eastern Africa and, lastly, countries in Western Africa.

IV. CONCLUSION

54. The main activities undertaken over the past few years with respect to both data collection and data analysis have provided a clearer picture of the population situation in Africa.

55. The global levels of fertility are now known. The censuses have given an estimate of fertility and surveyssuch as those carried out as part of the World Fertility Survey have provided increasingly accurate measures of fertility.

56. The levels of fertility in Africa are now relatively high. Thus, by the time an African woman's reproductive life is over, she will have given birth to between six and seven children; this reflects a "natural" fertility model. Fertility is highest between the ages of 20 and 30 years.

57. Although such levels of relatively high fertility on the African continent are making African governments increasingly worried, thoseproblem should not make governments overlook the problem of infertility which, in the socio-cultural context of Africa, is more alarming. The incidence of infertility or sub-fertility in some African regions remains an obsession for all African women. According to the African saying, there is no greater misfortune for an African woman than sterility.

59. It also appears that as a result of the rising age at first marriage, there is an increase in the rhythm of child bearing in the first birth interval accompanied by a shortning in the mean duration of that interval. This would thus result in an increase in fertility at the beginning of marriage which, if no precautions are taken in the future could simply become an increase in fertility.

59. Indeed, in view of the clearly formulated objectives in the economic and social development plans of African governments such as urbanization and modernization, universal education, eradication of infant mortality, a decrease in sterility and so on, still greater changes should be expected in the near future.

60. It should for example be expected that not only would the chances of women breat-feeding their babies become increasingly smaller, but that the duration of breastfeeding will become increasingly shorter. Similarly, post-partum sexual abstinence will be less common and of shorter duration, and people will be increasingly older at first marriage. Thus, if there is no corresponding increase in the use of modern contraception, such a disruption of the traditional mechanisms of fertility regulation in Africa might, if it becomes worse, make women more exposed to the risk of conception and the consequence will be an inevitable increase in fertility.

61. Recent estimates in some East, West and North African countries show that levels of mortality are still relatively high in Africa. Life expectancy at birth is about 50 years in Africa while it is much higher than 70 years in the developed countries.

62. Infant and child mortality is also very high and alone accounts for more than half of all deaths in almost all the African countries. Available data have also showed variations in mortality among countries and quite significant differences between regions of the same countries and between urban and rural areas.

63. Although current knowledge on the levels, structure, trends and determinants of mortality in Africa is limited, the data presented suggest that the priority objectives of any population policy aimed at reducing mortality should be the reduction of infant and child mortality. Since infectious diseases, parasites and malnutrition still remain the main causes of infant mortality, a consistent population education policy should be developed to get parents to take the preventive measures required to bring about a decline in childhood morbidity and mortality. Such a policy should go hand-in-hand with the reorganization of health services, a better distribution of health facilities between urban and rural areas and development of basic health care.

64. On the basis of the findings presented and analyzed in this document that it can be stated in a nutshell the levels of fertility and mortality in most African countries are still relatively high. However, it is still difficult to accurately determine the levels of fertility and mortality because of inadequate demographic data and a lack of appropriate analysis techniques to generate reliable estimates.

65. As a result of these shortcomings, the conclusion we have reached should not be considered as final. On the contrary, as the quality of data is expected to gradually improve in the future, they could be adjusted accordingly.

Table A1: Estimate of population size, crude birth rates and crude reproduction rates

Regions or countries	Estimate of population size in July 1980 (in thousands)	Estimate of crude birth rate & crude reproduction rate in 1980-1985	
		CBR (%)	CRR
Central Africa		44.8	2.97
Angola	7 723	47.3	3.15
Cameroon	8 554	43.2	2.85
Congo	1 529	44.5	2.95
Gabon	1 074	34.6	2.30
Equatorial Guinea	352	42.5	2.79
Central African Republic	2 290	44.7	2.90
Sao Tome and Principe	85	-	-
Chad	4 777	44.2	2.90
Zaire	29 532	45.2	3.00
East Africa		49.1	3.35
Burundi	4,052	47.8	3.17
Comoros	392	46.3	3.10
Djibouti	310	-	-
Ethiopia	32,012	49.2	3.30
Kenya	16 776	55.1	4.00
Madagascar	8 704	44.4	3.00
Malawi	5 969	52.1	3.45
Mauritius	955	25.5	1.35
Mozambique	12 094	44.1	3.00
Uganda	13 179	49.9	3.40
Reunion	525	20.5	1.10
Rwanda	5 144	51.1	3.60
Seychelles	65	-	-
Somalia	4 612	46.5	3.00
Tanzania	18 [illegible]87	50.4	3.50
Zambia	5 64[illegible]	48.1	3.33
Zimbabwe	7 360	47.2	3.25
North Africa		41.9	2.93
Algeria	18 667	45.1	3.40
Egypt	41 251	38.1	2.55
Libya	2 974	45.6	3.50
Morocco	20 050	44.0	3.14
Sudan	18 681	45.9	3.22
Tunisia	6 393	34.1	2.40

Table A1: (continued)

Regions or countries	Estimate of Population size in July 1980 (in thousands	Estimate of crude birth rate & crude reproduction rate in 1980-1985 CBR (%)	CRR
West Africa		44.8	2.97
Benin	3,472	51.0	3.45
Burkina Faso	6 174	47.8	3.20
Cape Verde	300	23.9	1.30
Cote d'Ivoire	8 247	46.0	3.30
Gambia	583	48.4	3.15
Ghana	11 457	47.0	3.20
Guinea	4 832	46.8	3.05
Guinea Bissau	809	40.7	2.65
Liberia	1 871	48.7	4.40
Mali	7 009	50.2	3.30
Mauritania	1 631	50.1	3.40
Niger	5 311	51.0	3.50
Nigeria	80 553	50.4	3.50
Senegal	5 708	47.7	3.20
Sierra Leone	3 296	47.4	3.02
Togo	2 534	45.4	3.00
Southern Africa		39.8	2.57
Botswana	908	50.0	3.20
Lesotho	1 339	41.7	2.85
Namibia	1 345	45.1	3.00
South Africa	28 612	38.7	2.50
Swaziland	558	47.5	3.20

Source: United Nations - World Population Projects - Estimates and Projections as assessed in 1982, 1984, New York.

Table A2: Mean number of live births by age of mothers at the time of the survey (ever-married women)

Country	Date of the Survey	Age Groups at the Time of the Survey							
		20	20-24	25-29	30-34	35-39	40-44	45-49	All
Benin	1982	.63	1.68	3.16	4.73	5.76	6.08	6.29	3.81
Cameroon	1978	.71	1.73	3.05	4.19	4.09	5.23	5.25	3.47
Cote d'Ivoire	1980	.80	2.00	3.40	4.00	5.90	6.70	6.90	3.80
Egypt	1980	.63	1.81	3.07	4.61	5.79	6.46	6.87	4.13
Ghana	1979	.71	1.59	2.76	4.06	5.39	6.14	6.73	3.66
Kenya	1978	.94	2.16	3.84	5.62	6.86	7.55	7.90	4.84
Lesotho	1977	.49	1.43	2.62	3.95	4.73	5.14	5.41	3.19
Morocco	1980	.27	1.92	3.25	4.91	6.13	7.11	7.08	4.55
Mauritania	1981	.99	2.17	3.73	5.00	5.79	5.97	6.10	3.88
Nigeria	1982	.83	2.10	3.31	4.36	5.12	5.15	5.873	3.67
Senegal	1979	.71	1.95	3.52	5.26	5.98	6.77	7.21	4.03
Sudan	1979	.70	2.19	3.42	4.99	5.91	6.03	6.07	4.21
Tunisia	1978	.63	1.52	2.88	4.53	5.81	6.60	7.04	4.50

Source: National fertility surveys - Analysis report - Vol. I

Table A3: Percentage of childless ever-married women by age group at the time of the survey

Country	Age Groups							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	All
Benin	45.0	12.0	5.0	3.0	4.0	3.0	4.0	9.0
Cameroon	46.4	16.7	11.0	9.6	11.4	10.8	13.7	16.7
Cote d'Ivoire	40.1	9.9	5.1	4.9	3.1	3.3	5.0	10.9
Egypt	52.5	18.1	8.5	4.1	3.2	4.1	3.7	11.0
Ghana	37.3	12.3	5.8	4.2	1.0	2.6	2.1	8.2
Kenya	37.5	11.5	5.7	3.5	3.0	4.8	4.6	8.5
Lesotho	55.4	18.1	6.0	3.3	4.2	5.8	4.1	12.9
Morocco	45.7	15.9	9.9	5.6	6.0	5.4	8.5	11.7
Mauritania	36.0	13.7	6.3	4.3	4.0	5.8	3.7	11.3
Nigeria	41.6	12.7	7.4	5.1	5.2	6.9	8.0	11.2
Senegal	43.9	10.9	4.1	4.4	3.4	3.5	3.5	11.4
Sudan	52.3	14.5	7.5	5.4	5.3	6.5	8.6	11.3
Tunisia	46.9	20.8	6.6	4.5	4.1	3.6	3.7	8.5

Source: National fertility surveys - Analysis report - Volume I

Table A4: Parity progression ratios (%) for women between 45-49 years (all women)

Country	Parity Progression Ratios										
	a 0	a 1	a 2	a 3	a 4	a 5	a 6	a 7	a 8	a 9	a 10
Benin	977	972	918	814	887	800	802	706	674	487	515
Cameroon	852	910	937	880	891	886	770	917	689	639	686
Cote d'Ivoire	956	982	955	950	944	883	855	753	665	595	-
Egypt	966	964	970	961	927	885	862	784	738	657	539
Kenya	975	982	976	957	956	938	926	884	759	733	521
Lesotho	960	940	910	900	970	930	800	750	700	650	560
Morocco	914	962	960	972	962	961	889	869	778	743	611
Mauritania	970	920	930	940	870	870	860	800	830	650	680
Senegal	971	974	952	955	914	923	877	833	735	688	590
Sudan	921	951	922	923	898	895	831	824	655	726	510
Tunisia	960	979	954	929	894	957	857	804	739	569	632

Source: National fertility surveys - Analysis report, Volume I

Table A5: Mean duration in months of the interval between first marriage and first birth according to age at first marriage (women married for the first time five years or more before the survey)

Country	Age at first marriage							All
	<15	15-17	18-19	20-21	22-24	25-29	30+	
Benin	19.8	18.2	16.7	17.5	16.1	17.9	23.7	17.8
Cameroon	26.5	20.1	17.8	13.1	17.8	15.4	20.8	21.1
Cote d'Ivoire	21.7	19.6	19.2	19.5	17.5	21.0	10.3	19.9
Egypt	23.2	20.4	19.8	19.9	18.2	18.2	19.7	20.3
Ghana	30.0	25.3	24.1	26.4	17.6	19.3	18.8	25.1
Lesotho	25.6	22.3	20.1	18.8	18.1	18.0	19.9	21.1
Morocco	24.6	21.1	20.2	19.9	20.8	15.0	23.7	21.8
Mauritania	24.8	24.2	20.5	21.6	19.6	21.2	16.6	23.9
Nigeria	24.4	20.2	20.4	19.0	18.4	22.3	14.6	21.6
Senegal	24.3	20.7	18.2	19.2	18.9	15.6	-	21.6
Sudan	42.0	34.5	29.2	27.5	20.4	25.6	18.5	36.3
Tunisia	25.8	22.3	19.3	19.0	17.9	16.3	15.7	20.4

Source: National fertility surveys - Analysis report - Vol. I.

Table A6: Percentage of women with children before marriage by age at first first marriage (women married for the first time five years or more before the survey)

Country	Age at first marriage							
	<15	15-17	18-19	20-21	22-24	25-29	30 +	All Ages
Benin	8.4	12.6	15.0	19.1	23.5	30.1	46.2	15.0
Cameroon	5.3	12.7	20.4	33.0	44.5	55.4	71.3	18.0
Cote d'Ivoire	5.6	12.7	16.1	29.1	35.4	55.0	89.7	16.0
Egypt	0.0	0.0	0.2	0.0	0.2	0.5	0.0	0.1
Ghana	3.3	7.2	8.0	7.9	15.5	19.8+		7.9
Kenya	6.2	13.2	25.0	29.8	39.9	41.2	53.2	18.5
Lesotho	2.2	2.9	2.9	7.6	7.6	24.2	30.0	4.5
Morocco	2.3	4.2	5.6	4.2	4.7	8.0	14.3	3.9
Mauritania	0.6	1.6	8.3	7.3	5.6	6.9	4.2	2.0
Nigeria	6.6	12.5	12.7	19.5	21.5	29.0	49.1	11.7
Senegal	0.5	2.1	4.8	12.5	8.3	26.9	66.7	2.8
Tunisia	0.0	0.0	1.1	0.0	0.3	0.5	0.0	0.1

+25 years and over
Source: National fertility survey - Analysis report, Vol.I.

Table A7: Mean number of live births before or during the first five years of marriage by maternal age at first marriage

Country	Age at first marriage							
	<15	15-17	18-19	20-21	22-24	25-29	30 +	All Ages
Benin	1.4	1.9	1.9	1.9	2.1	2.3	3.5	1.9
Cameroon	1.0	1.5	1.7	2.0	2.2	2.5	3.1	1.5
Cote d'Ivoire	1.5	1.7	1.8	2.1	2.1	2.9	3.0	1.8
Egypt	1.7	1.9	2.0	1.9	1.9	1.8	1.2	1.8
Ghana	1.5	1.6	1.7	1.6	2.0	2.0	2.1	1.7
Kenya	1.6	1.9	2.0	2.0	2.0	1.9	1.3	1.8
Lesotho	1.2	1.4	1.5	1.7	1.7	2.0	2.0	1.5
Morocco	1.3	1.8	1.9	1.9	1.8	2.0	1.9	1.7
Mauritania	1.2	1.5	1.7	1.8	1.6	2.0	1.5	1.3
Nigeria	1.2	1.6	1.7	1.8	1.9	2.1	2.7	1.5
Senegal	1.4	1.6	1	1.6	1.9	(2.2)	(3.0)	1.5
Sudan	1.4	1.6	1.7	1.8	1.7	1.6	1.6	1.5
Tunisia	1.5	1.8	2.0	2.1	2.1	2.2	(1.9)	1.9

Source: National fertility surveys - Analysis report, Vol. I

Table A8: Age-specific fertility rates (%) and total fertility (0-4 years before the survey)

Country	Age group at the time of the survey							Total Fertility
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Benin	151	314	329	278	193	99	51	7.11
Cameroon	186	295	277	220	155	106	36	6.38
Cote d'Ivoire	216	314	299	245	207	129	60	7.37
Egypt	99	256	285	217	130	48	16	5.27
Ghana	132	257	266	242	169	135	50	6.26
Kenya	174	346	354	301	241	166	68	8.25
Lesotho	67	293	289	242	186	87	26	5.95
Morocco	93	265	296	222	178	98	29	5.91
Mauritania	155	264	290	242	168	86	44	6.25
Nigeria	173	284	274	231	147	100	60	6.35
Senegal	188	304	331	270	197	106	36	7.16
Sudan	114	264	283	251	149	108	35	6.02
Tunisia	34	225	304	261	199	112	37	5.86

Source: National fertility surveys - Analysis report, Vol. I.

Table A9: Relative [illegible]

Country	Age groups at the time of the survey							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Benin	107	222	233	196	136	70	36	1000
Cameroon	146	231	217	173	122	83	28	1000
Cote d;Ivoire	147	213	203	167	141	88	41	1000
Egypt	94	244	271	206	124	46	15	1000
Ghana	106	205	213	193	135	108	40	1000
Kenya	105	210	215	182	146	101	41	1000
Lesotho	56	246	244	203	156	73	22	1000
Morocco	79	224	251	188	151	83	24	1000
Mauritania	124	211	232	194	135	69	35	1000
Nigieria	136	224	216	182	116	79	47	1000
Senegal	131	212	231	189	138	74	25	1000
Sudan	95	219	235	208	124	90	29	1000

Source: Table A8

Table 10: Relative contribution to total fertility of women below 20 years, between 20 to 29 years, 30 years and over

Country	Total Fertility	Cumulative Fertility			Relative Contribution to Total Fertility (%)		
		From 15-19	From 20-29	From 30-49	Women under 20 years of age	Women between 20-29 years of age	Women between 30-49 years of age
Benin	7.11	0.75	3.22	3.13	11	45	44
Cameroon	6.38	0.93	2.86	2.59	15	45	40
Cote d'Ivoire	7.47	1.08	3.07	3.32	14	41	45
Egypt	5.27	0.50	2.71	2.06	10	51	39
Ghana	6.26	0.66	2.62	2.98	10	42	48
Kenya	8.31	0.87	3.50	3.94	11	42	47
Lesotho	5.79	0.52	2.62	2 .65	9	45	46
Morocco	6.91	0.50	2.91	2.49	9	43	42
Mauritania	6.25	0.78	2.77	2.70	13	44	43
Nigeria	6.46	0.87	2.79	2.80	14	43	43
Senegal	7.23	0.94	3.18	3.11	13	44	43
Sudan	6.02	0.57	2.75	2.70	9	46	45
Tunisia	5.85	0.17	2.65	3.03	3	45	52

Source: Table A8

Table .11: Estimates of indices of mortality for selected countries in Africa based on data collected in 1960s & 1970s

Country	1960s series of Data a/ CDR M	CDR F	IMR M	IMR F	$_1q_0$ M	$_1q_0$ F	1970s series of Data b/ CDR M	CDR F	IMR M	IMR F	$_1q_0$ M	$_1q_0$ F
Eastern Africa												
Kenya	20.0	17.8	120.0	102.0	44.3	47.5	18.2	16.1	105.0	89.0	47.1	50.4
Malawi	24.5	22.1	-	-	38.3	42.4	22.5	20.0	224.0	193.0	41.5	44.5
Tanzania	22.5	20.3	156.0	133.0	41.3	44.4	20.0	17.9	148.0	125.0	44.7	47.3
Zambia	22.5	20.0	135.0	115.0	41.5	44.5	19.2	17.1	106.0	90.0	48.3	48.5
Western Africa												
Gambia	25.4	25.8	-	-	38.0	39.2	28.7	23.3	224.0	200.0	34.6	40.4
Ghana	27.2	29.3	-	-	36.3	38.6	23.3	22.9	-	-	39.7	41.3
Liberia	25.4	25.9	-	-	39.4	37.8	22.0	25.7	125.0	107.0	40.8	38.5
Sierra Leone	26.7	31.7	-	-	37.0	33.3	27.2	26.0	246.0	224.0	36.5	36.8
Northern Africa												
Egypt	20.4	19.2	160.0	145.8	44.2	46.2	12.5	11.9	106.9	100.6	56.1	58.3
Morocco	21.1	21.5	164.9	157.3	43.2	43.3	15.9	17.4	131.4	135.5	50.4	48.7
Sudan	-	-	-	-	-	-	17.9	23.4	144.3	163.5	47.5	41.8
Tunisia	13.6	14.7	115.6	119.6	54.0	52.9	12.9	12.8	111.2	108.0	55.0	55.2

(-) Data not available.

a/ Census dates were as follows: Kenya 1969, Malawi 1966, Tanzania 1967, Zambia 1969, Gambia 1962, Ghana 1960, Liberia 1962, Sierra Leone 1962, Egypt 1960, Morocco, 1960, Tunisia 1966.

b/ Census dates were as follows: Kenya 1979, Malawi 1977, Tanzania 1978, Zambia 1974, Gambia 1973, Ghana 1970, Liberia 1974, Sierra Leone 1974, Egypt 1976, Morocco 1971, Sudan 1973 and Tunisia 1975.